

Abstract

A device employing at least one wavelength sieve/combiner that operates on discrete wavelength units and is optically interposed between an array of fibers and an array of micro mirrors which may be configured to act as in a multiplexing mode, a demultiplexing mode, a broadcast mode, and combinations of such modes. Each wavelength sieve/combiner can split a wavelength division multiplexed (WDM) beam into various discrete wavelength unit beams, combine various discrete wavelength unit beams into a WDM beam, or cause multiple copies of part or all of the wavelengths to be supplied as outputs. Typically, each fiber is associated with one wavelength sieve/combiner. Preferably, the beams between a wavelength sieve/combiner and the micro mirror array should be converging to the plane of the micro mirror array.